

**United States Senate**  
**Committee on Health, Education, Labor and Pensions**

**Testimony of Donald A. Henderson, MD, MPH**  
**Director, Johns Hopkins Center for Civilian Biodefense Studies**

**October 9, 2001**

Mr. Chairman, distinguished members of the Committee, tragically, we find ourselves contemplating the possibility of a bioterrorist attack on US civilians. As we consider these grave matters, it is important that we recognize that such an attack is by no means a foregone conclusion although the risk is not zero. However, there is much that can be done – if we take prudent actions beforehand – to mitigate the consequences of an epidemic deliberately initiated by terrorists.

A bioterrorist attack on the US would be completely different from the events of 11 September. It would in all likelihood be a covert attack. There would be no discrete “event”; no explosion, no immediately obvious disaster to which firefighters and police and ambulances would rush. We would know we had been attacked only when people began appearing in emergency rooms and doctors’ offices with inexplicable illnesses or with seemingly common illnesses of unusual severity.

The “first responders” to bioterrorism would be health care workers and public health officials. Our ability to effectively deal with such an event depends directly on the capacity of our medical care institutions and our public health system to quickly recognize that an attack has occurred; to promptly identify those who might be a risk; to deliver effective medical care – possibly on a massive scale; and, should the bioweapon prove to be transmitted from person to person, to rapidly track and contain the spread of disease. A number of steps have been taken to fully prepare the nation to respond and,

clearly, we are better positioned than we were several months ago, indeed several weeks ago, but much remains to be done.

On October 4, Secretary of Health and Human Services Tommy Thompson named me Chair of an Advisory body which is to work with the Secretary in furthering efforts to prepare the nation to respond to acts of bioterrorism or other attacks which could place large numbers of US civilian victims needing medical attention. I am honored to accept this post, but as I am sure you will understand, it is premature to discuss either the functions or composition of the Advisory Council other than to say that it will operate in accordance with the Federal Advisory Committee Act (FACA). It will draw on expertise and persons from across the country and with varied experience at local, state and federal level. The membership of the Council and its precise functions will be established within the next few weeks.

There is concern on the part of your Committee as to needs in the immediate and near-term – that is, the next 30-60 days – to better prepare the nation to respond to possible acts of bioterrorism and that I am happy to address. In doing so, however, it is important that we bear in mind that there are no simple actions or one-time infusions of funding that will rebuild a deteriorated public health system and provide the needed surge capacity in our hospitals to be able to cope, on an emergency basis, with large numbers of casualties. A longer-term strategy is critical. We must also, at the same time, embark on a search for better ways to prevent and treat infectious disease, especially those diseases likely to be used as biological weapons. We must find ways to use our significant assets in biomedical research to make bioweapons effectively obsolete as weapons of mass destruction.

HHS, over the past several years but especially in recent months, has taken a number of important steps to improve our readiness to respond to bioterrorism. There have been many laudable new initiatives, and existing programs that have relevance to bioterrorism response have been promoted. Many capable people are working hard on a number of projects. The efforts, however, lack needed coherence. The task now is to

combine these diverse and disconnected efforts into a unified program of action. We need a single, centralized medical and public health strategy for preparing the nation to detect and respond to bioterrorist attacks. It is an effort that appropriately should be managed by HHS, integrated across the Department, coordinated with state and local authorities, and able to interface efficiently with other federal agencies.

The difficulty of understanding and managing the complex interactions among the different agencies, levels of government and private sector organizations that have roles to play in bioterrorism response is profound. New partnerships must be forged. Policy makers must be educated to understand the operational realities faced by hospitals and public health agencies. They must recognize that protecting national security will demand investments in sectors not typically considered integral to defense strategy.

State and local public health departments across the country are the backbone for detection and response to a biological weapons attack. They need resources and they need them urgently if they are to effectively carry out even the rudimentary actions that are absolutely essential for dealing with a major infectious disease outbreak. It is difficult to exaggerate the deficiencies of our present public health capacities. Indeed, it is inaccurate to even call the varied public health structures at state, city and county level a public health “system”, since many of these units are not connected or coordinated in any meaningful way. In the near term, it is important that we identify and support the essential steps needed to make this motley arrangement functional.

Assuming that federal funds can expeditiously be made available, there will be a need for an expedited process to get these funds to state and local level. The leisurely and tortuous administrative channels will need to be foreshortened so that funds become available in weeks, not months. Moreover, such funds should not be overly constrained by restrictive definitions of how they are to be spent. The variety of needs in the 50 state and 3000 local public health departments around the country are such that, for a program of this urgency and complexity, it would not be sensible for the federal government to

dictate what the most urgent spending priorities should be in Newark or Phoenix or Montgomery County, Maryland.

### **Public Health Functions in Need of Immediate Improvement**

#### *Systems Linking the Medical Community to Public Health*

If we are to detect and rapidly identify a new health problem, public health officials must be available 24 hours a day seven days a week to take calls from clinicians reporting cases which may be suggestive of such as a bioweapons-related disease. This is not possible in most areas of the country. Creating this vital link between the medical system – which is likely to be where the first evidence of a bioterrorist attack arises – and public health will in some cases require hiring more health department staff. In some locales, it may require purchasing beepers or an answering service. It need not – indeed, should not be – a high-tech operation, but it is vital to the early discovery of an intentional epidemic. And early discovery is vital to saving lives.

#### *Improved Communications and “Connectivity” among Public Health Agencies*

There is a need to augment communications at local, state and federal level to assure the possibility for rapid communications 24 hours per day, 7 days per week between agencies.

#### *Improved Laboratory Diagnostic Capacity*

Support in terms of training and equipment is being provided to a national network of more than 60 laboratories capable of diagnosing the principal threat agents. This process needs to be substantially speeded up so that the full range of potential agents can be rapidly and accurately identified.

#### *Ensuring the Adequacy, Availability of the National Pharmaceutical Stockpile (NPS)*

HHS began some years ago to acquire a national stockpile of drugs and equipment that could be called upon in time of need for mass casualty situations. Today,

the NPS consists of caches of such supplies, located in strategic locations around the country. CDC has reported that these supplies can be delivered within 12 hours to any point in the nation. Because of recent events, the nature and quantities of materials available will be reviewed by an expert advisory group later this month.

In addition, Secretary Thompson has initiated a number of steps to ensure that the supplies of smallpox vaccine held by the federal Centers for Disease Control and Prevention (CDC) are immediately ready for distribution if needed. The Secretary has recently directed that the amount of smallpox vaccine produced under the HHS contract with Acambis be significantly increased, and has taken steps to move up the date of delivery.

Perhaps the most uncertain part of the equation in getting drugs and vaccine to the population relates to the question of distribution. Health departments have had little experience in the large scale, rapid distribution of either drugs or vaccines. Should such be needed, there predictably would be staggering logistical problems. Here again is where resources are needed for state and local health departments to undertake contingency planning for distribution.

#### *Improved Training of Public Health Officials, Emergency Room Health Personnel and Infectious Disease Physicians*

These three groups of professionals along with the laboratory personnel represent the foundation for early detection, diagnosis, definition of the epidemic and application of preventive and therapeutic measures. Educational materials are urgently in need. Resources are required for training programs, drills, tabletop exercises, etc. In the longer term there is a need for rigorous curricula and training programs to prepare public health professionals to manage deliberate epidemics, and to incorporate public health practice-related curricula into academic training programs.

#### **Medical Care Functions In Need of Improvement**

Obviously, it does little good to have a public health system that can detect disease outbreaks and manage epidemics if we cannot effectively take care of sick

people. Over the past decade, hospitals and the medical care system generally, have labored under intense financial pressures. One reaction to these pressures has been the elimination of excess capacity from the health care system.

Today, few hospitals could respond effectively to a sudden, significant surge in patient demand. Research done by the Hopkins Biodefense Center indicates that no hospital, or geographically contiguous group of hospitals, could effectively manage even 500 patients demanding sophisticated medical care such as would be required in an outbreak of anthrax, for example. In the event of a contagious disease outbreak – such as smallpox -- far fewer patients could be handled. There isn't enough staff, enough supplies, enough drugs on hand to cope with such an emergency. This problem of lack of surge capacity has no simple solutions.

The first step is to recognize that the problem exists and to encourage hospitals to join forces in the search for solutions. We advocate an immediate effort to establish regional consortia of hospitals – groups of institutions co-located in cities or counties around the nation – to begin planning how best to use available resources most efficiently. Hospitals should immediately review their existing disaster plans, paying particular attention to management of mass casualties and to how they would handle large numbers of patients with potentially contagious disease. Even these simple steps will require money. Congress should immediately investigate how they might provide financial relief or incentives to enable hospitals to carry out these initial steps. Secondly, medical professionals must be made aware of the possibility of bioterrorist attacks and learn to recognize the symptoms of the six or so pathogens thought most likely to be used as bioweapons. It is imperative that clinicians not only be able to recognize the symptoms of anthrax, smallpox, etc., but that they be aware of the responsibility to report suspicions of such diseases to the public health authorities – and that they know exactly who to call and how to reach them.

## **Research and Development**

A well-conceived and integrated plan for research and development is needed to deal with a number of challenges -- in the near term: an improved anthrax vaccine, new therapies to treat anthrax, and drugs to deal with the complications of smallpox vaccine.

But beyond this, one could envisage an array of solutions that might prevent the use of biological weapons or at least mitigate the likelihood of their use and so make bioterrorism and its consequences less likely or less severe – new vaccines and treatments for currently untreatable viral and toxin diseases; rapid diagnostic tests; sensor systems; and immune enhancement mechanisms. Years, not months, will be required for their development but, regrettably, biological weapons and biological terrorism will be with us for the foreseeable future.